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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,697

11/24/2003

Yoshihiko Taira

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02/14/2005

OLIFF & BERRIDGE, PLC  
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EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/718,697

Applicant(s)

TAIRA ET AL.

Examiner

Hai C Pham

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2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/24/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Objections*

2. Claim 4 is objected to because of the following informalities:
  - Line 2, "a printhead that plural light-emitting chips" should read --a printhead that has plural light-emitting chips--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

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directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii (JP 2001-080111).

Ishii, an acknowledged prior art, discloses an optical writing device comprising a print head that has plural light-emitting chips (12), in which plural light-emitting elements are formed in a row, are disposed in a row (Fig. 1), and a driver (15, Fig. 5) for driving the plural light-emitting elements based upon image data, as the light amount of at least one of two light-emitting elements, which are neighbor at the joint of the light-emitting chips to be different from the light amount of light-emitting elements, which neighbor the two light-emitting elements (see Abstract and Figs. 2-4).

5. Alternatively, claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawada (JP 08-118722).

Sawada discloses a driving circuit for LED print head, which comprises a plurality of light-emitting diode-array chips arranged in a row, in which the driving current in the light-emitting diode on the edge of the light-emitting diode-array chip is increased or decreases when the distance between the light-emitting diodes on the edges of the adjacent light-emitting diode-array chips or gap G is greater or smaller, respectively, than the interval between adjacent light-emitting diodes within each chip or the resolution pitch P (see English Translation, paragraphs [0033] and [0034]).

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6. Alternatively, claims 1-2 and 3-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Masuda (Pub. No. U.S. 2004/0008247).

Masuda discloses an optical writing unit, which comprises a plurality of light-emitting diode-array chips arranged in a row and a method for driving the light-emitting diode array elements formed on the chips in a row, the method comprising determining the beam profiles of the plural light-emitting elements including joints of the light-emitting diode-array chips (determining the exposure intensity distribution of all the light-emitting elements including the ones located at the edges of the light-emitting diode-array chips such that the interval  $P_a$  at the joining chips are determined), slicing the beam profiles at a predetermined level and determining the distance between the light-emitting elements at the joints of the light-emitting chips from the distance between median points of the sliced plane (based on the cross-section or exposure area of the exposure intensity distribution taken at a certain threshold level), comparing the determined distance  $P_a$  between the light-emitting elements with the resolution pitch ( $P$ ) of the light-emitting print head, raising or lowering the light amount of the light-emitting elements of at least one side of the joints of the light-emitting chips when the determined distance between the light-emitting elements is longer or shorter, respectively, than the resolution pitch (increasing or lowering the light volume of the light-emitting elements on and near the edges of the light-emitting diode-array chips depending on whether  $P_a > P$  or  $P_a < P$ ) (paragraphs [0090]-[0096]).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda in view of Ishii.

Masuda fails to expressly disclose the raised or lowered light amount being based on the difference between the distance at the joints of the light-emitting diode array chips and the resolution pitch.

Ishii discloses the percentage of the increase of the light amount at the joints between the of the light-emitting diode array chips being based on the distance difference between the distance at the joints of the light-emitting diode array chips and the resolution pitch, e.g., based on the standard pitch of 63.5  $\mu\text{m}$  at the resolution of 400 dpi (English translation, paragraphs [0035]-[0036]).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to adjust the light quantity of the light-emitting elements at the edges of the light-emitting diode array chips in the device of Masuda based on the difference between the distance at the joints of the light-emitting diode array chips and the resolution pitch as taught by Ishii. The motivation for doing so would have been to provide a smooth and uniform increase or decrease of the light quantity of the light-emitting elements at the edges of the light-emitting diode array chips.

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

February 8, 2005